

Snowshed

September, 2021

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News & Events:

Museum of Truckee History is open 11-5, Saturdays and Sundays.

Truckee Railroad Museum (caboose) is open weekends 10-4.

Truckee River Railroad (kid's train) will have its last run of the season on Saturday, Oct 2.

See our Facebook page for details & updates.

Contents:

President's Letter, 1
by Jerry Blackwill

Snowsheds over Donner Pass 2
by Dan Cobb

Presidents Letter

Jerry Blackwill

This summer has been one of challenges. Between the COVID-19 resurgence and the smoke from wildfires, we've been able to run the Truckee River Railroad on a few weekends and open the Railroad Museum a few days.



We are having more success in raising funds to get interpretive signs and restore the railroad crane in the Railyard pocket park. A number of you have donated, thank you. Dan Cobb was also able to obtain a grant from the Union Pacific Foundation to cover some of the costs of restoration. Chip Huck, who has already led an effort to paint the rotary snow plow, is now planning for the new signs and crane restoration.

Our Truckee River Railroad volunteers really enjoy giving rides to all of those who are young at heart. The smiles and enthusiasm of our riders are a reward to all of our volunteers. A memorial fund was recently set up for one young rider. He loved riding the train and we've received funds that Bob Bell will use for equipment purchases.

We were able to have our annual meeting in between smoky days and Tom Smith has been elected to our board. Tom has been very active building the Truckee River Railroad and he pulls train loads of kids with his own steam engine. He'll be a strong addition to the board.

Thanks to all and we hope to see you visiting the museum and as volunteers.

Jerry Blackwill
President

Snowsheds over Donner Pass

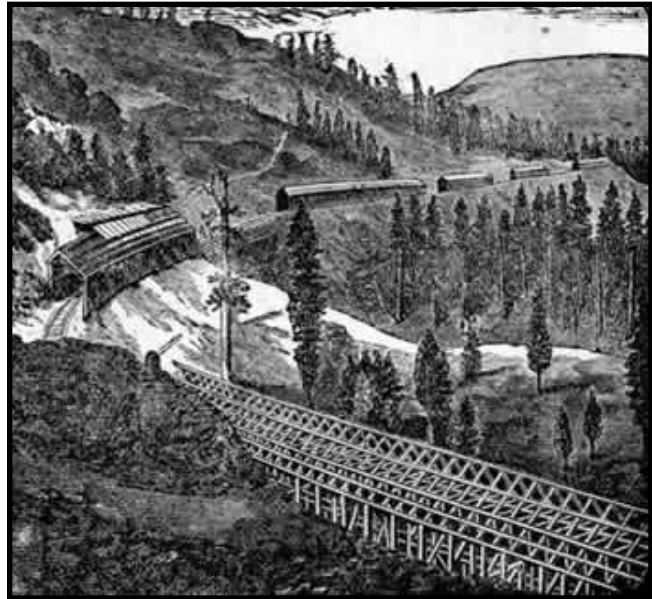
Daniel Cobb

The railroad snowsheds we see above Donner Lake are but a small remnant of the 30 miles of sheds that once sheltered Central Pacific and Southern Pacific trains from the often-prodigious snowfalls of the Sierra Nevada. The history of the sheds is an interesting study in evolving technology and how solving one problem often created new ones.

When Theodore Judah originally proposed the route of the Transcontinental Railroad over Donner Pass, he considered the challenge of snow removal, but naively concluded that it would not be a serious problem. Noting that most of the trackage would be on sidehill grades, he suggested that the snow could easily be pushed to the downhill side after each storm. Shoveling would be required over the two miles of flat ground west of the summit, but that seemed manageable given the low cost of manual labor in that age.

Reality proved quite different. In the winter of 1866-67 when the Central Pacific Railroad was still under construction, more than 40 feet of snow fell over Donner Pass, and large gangs of shovelers had to be employed just to keep the completed track clear for supply trains. In some places, 12 feet of snow and ice remained on the tracks through the end of May. The experience was sufficient to convince the directors that something had to be done if the railroad was to operate year-round.

Central Pacific began a snowshed building program the following summer, using an A-frame design with a steep roof designed to shed snow to both sides. That worked fairly well on flat and gently-sloped ground, but proved problematic on those same steep sidehill slopes that Judah thought would work to the railroad's advantage. Snow built up on the uphill side of the sheds, and the glacial pressures downslope pushed the sheds out of vertical alignment, requiring armies of shovelers to move snow from the uphill side to the downhill side to prevent collapse. The A-frame design was eventually replaced with a flat-roofed design, using stouter timbers and substituting stronger yellow (Jeffrey) pine for the sugar pine used on the earlier sheds. Ultimately over 44 million board feet of sawed lumber and more than 1.3 million lineal feet of round timbers were used to build more than 30 miles of snowsheds.



Early artist's conception of snowsheds at Donner Summit.

In addition to the early engineering challenges, two new problems emerged. The first was fire. The wood-burning engines of the late 1800s spewed burning embers despite the use of balloon stacks with fire screens, and the embers lodged in cracks in the summer-dry roof boards of the sheds, setting them

Snowsheds over Donner Pass (continued)

Daniel Cobb

on fire. During its first full year of operation over Donner Pass, a 4000-foot section and another 1200-foot section were destroyed by fire. This prompted the commissioning of “fire trains” along the route, a fire lookout on Red Mountain for early detection, and the building of sidings outside the sheds for the use of the fire trains to fight snowshed fires.

The second problem created by the snowsheds was customer dissatisfaction.

Instead of enjoying beautiful mountain vistas and fresh mountain air during their journey over the Sierras, passengers were subjected to miles of “railroading in a barn” and suffocating wood smoke trapped inside the sheds. CP responded by cutting windows, and later by removing every other vertical board on the downhill side of the sheds to restore the view and create some ventilation. In some areas, they built “summer sidings” to allow passenger trains to run outside the sheds during warmer weather.

There were numerous proposals to abandon the sheds, but no effective alternative was found. In 1889, about two miles of sheds burned near Cascade during the summer, and the CP directors decided not to rebuild. The following winter saw one of the biggest snowfalls in history, resulting in serious blockage of railroad traffic over the unprotected section. The sheds were rebuilt the following summer.

Over time, engineering improvements reduced the risk of fire. The conversion from wood to oil burning locomotives reduced the spewing of live embers. Development of “telescoping sheds” – moveable iron sleeves inside the sheds – limited the spread of fires in the snowsheds. Replacement of wooden sheds with concrete sheds further reduced the fire danger.

Technological improvements also reduced the need for the sheds. Rotary snowplows and stronger engines greatly improved the railroad’s ability to clear snow from unsheltered track. The drilling of additional tunnels, including the two-mile “big hole” at Donner Pass in 1925, reduced the amount of exposed track in the heavy snowfall zone. By 1955, the total length of snowsheds still in use was less than 5 miles. Reductions in rail traffic in recent decades have allowed all traffic over the summit to use the “big hole”, and the snowshed-covered grade around Mt. Judah to be abandoned.

Most of the information in this article is from the book *Snowplow*, by Gerald M. Best. While it has long been out of publication, used copies are readily available.

Dan Cobb



Fire train, circa 1892

Truckee Donner Railroad Society

Society Mission:

Board of Directors:

Jerry Blackwill—President

Bob Bell—Executive Vice President/Treasurer

Ed Czerwinski—Secretary

Nelson Van Gundy — Historian

Ed Larson—Vice President, Museum Operations

Dan Cobb—Strategic Planning & Newsletter

Chip Huck—Rolling Stock Restoration & Preservation

Greg Kuzma

Judy DePuy

Tom Smith

To preserve, interpret, and educate the public about railroading life and history in the Truckee region including its contribution to Truckee and the Nation. Specifically, depict railroad involvement in local industry through the acquisition, preservation, and restoration of relevant equipment, documents, and artifacts all to be part of a permanent museum facility in downtown Truckee.

Truckee Railroad Museum Vision:

Keeping Truckee railroads alive!

Railroads of the Truckee area played a significant role in founding and developing the town of Truckee. From the blasting of black powder in the granite over Donner Lake, to the hissing of the first steam coming into town, to whistles of lumberjacks in the mountains, to the crack of ice being loaded in the reefers, and tourists flocking to share the beauty of the area, the Truckee Railroad Museum tells the story.

Volunteer!

You can help TDRS and serve the community by volunteering for one of our projects or ongoing operations:

- Snowplow & Crane Restoration
- Truckee River Railroad Operations
- Museum Docent

Contact our volunteer manager volunteer_manager@truckeedonnerrailroadsociety.com.

Donate!

You can also help by donating at our website, truckeedonnerrailroadsociety.com, at the bottom of the home page.

www.truckeedonnerrailroadsociety.com
501(c) 3 non-profit organization

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